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INFO	RMATIC	ON DISCLOSURE	Application Number	09/915,469 January 29, 1998		
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5			First Named Inventor	Howard M. Kingston		
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ATTACHMENT TO INFORMATION DISCLOSURE STATEMENT

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	Date January 29, 1998	
TRADENTILE		Spectrometry of Reactive Species and
TRAUE	Related Methods	RECEIVED
		JUL 1 0 1998
_*1	-Kingston U.S. Patent 5,414,259	GROUP 2100
<*2. -	Allen, H. E. et al., Metal Speciation and	Contamination of Soil, Lewis Publisher:
	331 332, 335, 341, 343)	8, 114-168, 188, 199, 259, 261, 280, 293, —
RECEIVI OCY CL IS A	Batley, G. E., <i>Trace Element Speciation</i> Press: Boca Raton, Florida, 1989 (pgs. 1320, 323)	1-24, 25-41, 61, 185-188, 195-197, 205-217,
107.86 1031.031	Das, A. K. et al., <i>Metal Speciation in B.</i> 1996, 122 (pgs. 209-246)	iological Fluids - A Review, Mikrochim. Acta
*5.	Kramer, J. R. et al., Metal Speciation: The Publishers: Chelsea, Michigan, 1991 (pg	Theory, Analysis and Application, Lewis 58 155-172, 261-289, 308-312) 58 159 159 159 159 159 159 159 159 159 159
*6.	Krull, I. S., Trace Metal Analysis and Statistics Library - Vol. 47, Elsevier: Oxford, 199 231)	
*7.	Van Loon, J. C. et al., Overview of Ana Analyst (London) 1992, 117 (pgs. 563-5	lytica Methods for Elemental Speciation,
*8.	Vela, N. P. et al., Elemental Speciation Chem., 1993, 65 (pgs. 585A-597A)	with Plasma Mass Spectrometry, Anal.
*9.	Donard, O. F. X. et al., Microwave-Ass. Sediments for Speciation Analysis, Anal.	chem. 1995, 67 (pgs. 4250-4254)
*10.		Digestion of Hexavalent Chromium, Test update, U.S. Environmental Protection 1-1-3060A-15)
	ZZ :8 🖔	TECHNISLOGY CENT
	, EB 3000	RECEIVED OF THE CHAPTOLOGY CELL

- *11. James, R. R. et al., Hexavalent Chromium Extraction from Soils: A Comparison of Five Methods, Environ. Sci. & Tech. 1995, 29 (pgs. 2377-2381)
- *12. Vitale, R. J. et al., Hexavalent Chromium Extraction from Soils: Evaluation of an Alkaline Digestion Method, J. of Environ. Qual. 1994, 23 (pgs. 1249-1256)
- *13. Vitale, R. J. et al., Hexavalent Chromium Quantification in Soils: An Effective and Reliable Procedure, Am. Environ. Lab. 1995, 7, 1
- *14. SW-846 EPA Method 196A: Chromium, Hexavalent (colorimetric), Test Methods for Evaluating Solid Waste, 3rd ed., U.S. Environmental Protection Agency: Washington, DC, 1996 (7)96A-1-7196A-6)
- *15. Nazario, C. L. et al., Comparative Study of Analytical Methods for Hexavalent Chromium, J. Am. Leather Chem. Assoc. 1990, 85 (pgs. 212-224)
- *16. Harzdorf, A. C., Analytical Chemistry of Chromium Species in the Environment, and Interpretation of Results, Int. J. Environ. Anal. Chem. 1987, 29 (pgs. 249-261)
- *17. Milacic, R. et al., Critical Evaluation of Three Analytical Techniques for the Determination of Chromium (vi) in Sail Extracts, Analyst (London) 1992, 117 (pgs. 125-130)
- *18. Fong, W. et al., Chromium Speciation Using Ion Chromatography-Atomic Absorption System With On-Line Preconcentration, Spectrosc. Lett. 24 (7&8), 1991 (pgs. 931-941)
- *19. Beceiro-Gonzalez, E. et al., Speciation of Cromium by the Determination of Total Chromium and Chromium (III) by Electrothermal Atomic Absorption Spectrometry, J. Anal. At. Spectrom. 1993, 8 (pgs. 649-653)
- *20. Peraniemi, S. et al., Separation of Microgram Quantities of Cr(III) and Cr(VI) in Aqueous Solutions and Determination by Energy Dispersive X-ray Fluorescence Spectrometry, Anal. Chim. Acta 1995, 315 (pgs. 365-370)
- *21. Beceiro-Gonzalez, E. et al., Separation of Cr(III) and Cr(VI) Using Complexation of Cr(III) With 8-Hydroxyquinoline and Determination of Both Species in Waters by ETA-AAS, Fresenius' J. Anal. Chem. 1992, 344 (pgs. 301-305)
- *22. Hassan, S. S. M. et al., Hydrogen Chromate PVC Matrix Membrane Sensor for Potentiometric Determination of Chromium (III) and Chromium (VI) Ions, Talanta 1996, 43 (pgs. 797-804)

- *23. Behne, D., Speciation of Trade Elements in Biological Materials: Trends and Problems, Analyst (London) 1992, 117 (pgs. 555-557)
- *24. Paniagua, A. R. et al., Determination of Chromium (VI) and Chromium (III) by Using a Diphenylcarbazide-Modified Carbon Paste Electrode, Electroanalysis (NY) 1993, 5 (pgs. 155-163)
- *25. Achterberg, E. P. et al., Automated Voltammetric System for Shipboard Determination of Metal Speciation in Sea Water, Anal. Chim. Acta 1994, 284 (pgs. 463-471)
- *26. Michalke, B., Capillary Electrophoresis A Useful Tool in Speciation Investigation, Fresenius' J. Anal. Chem. 1996, 354 (pgs. 557-565)
- *27. De Smaele, T. et al., ICP-MS A Sensitive Detector for Metal Speciation With Capillary GC, LC GC Int. 0 1996, 9 (pgs. 138-140, 142)
- *28. Pobozy, E. et al., Ion Chromatographic Speciation of Chromium With Diphenylcarbazide-based Spectrophotometric Detection, J. Chromatogr., A 1996, 736 (pgs. 141-150)
- *29. Tomlinson, M. J. et al., Speciation of Toxicologically Important Transition Metals Using Ion Chromatography with Inductively Coupled Plasma Mass Spectrometric Detection, J. Anal. At. Spectrom. 1994, 9 (pgs. 957-964)
- *30. Udy, M. J., CHROMIUM: Chemistry of Chromium and Its Compounds, Reinhold Publishing Corporation, New York, 1956, Vol. I (pgs. 53-75)
- *31. Weckhuysen, B. M. et al., Surface Chemistry and Spectroscopy of Chromium in Inorganic Oxides, Chem. Rev. 1996, 96 (pgs. 3327-3349)
- *32. Paustenbach, D. J. et al., An Assessment and Quantitative Uncertainty Analysis of the Health Risks to Workers Exposed to Chromium Contaminated Soils, Toxicology and Industrial Health, 1991, 7 (pgs. 159-196)
- *33. Nriagu, J.O. et al., Chromium in the Natural and Human Environments, Nriagu, J.O., Ed. In Advances in Environmental Science and Technology, John Wiley & Sons: New York, 1988, Vol. 20 (pgs. 1-105)
- *34. Burrows, D., Chromium: Metabolism and Toxicity, CRC Press, Inc.: Boca Raton, FL, 1983 (cover sheets attached)
- *35. SW-846 EPA Method 6800: Elemental and Speciated Isotope Dilution Mass Spectrometry, Test Methods for Evaluating Solid Waste, Update 4, 1998

- *36. Lagerwaard, A. et al., An Independent Accurate Reference Method for the Determination of Chromium in Biological Materials, Fresenius' J. Anal. Chem. 1995, 351 (pgs. 786-789)
- *37. Van Raaphorst, J. G. et al. Accurate and Precise Determination of Chromium by Isotope Dilution Mass Spectrometry in Some Environmental Materials, Anal. Chim. Acta 1994, 286 (pgs. 291-296)
- *38. Fassett, J. D. et al., Isotope Dilution Mass Spectrometry for Accurate Elemental Analysis, Anal. Chem. 1989, 61 (pgs. 643A-644A, 646A, 648A-649A)
- *39. Moore, L. J. et al., The Use of Isotope Dilution Mass Spectrometry for the Certification of Standard Reference Materials, Environ. International 1984, 10 (pgs. 169-173)
- *40. Kingston, H. M. et al., Preconcentration of Trace Metals in Environmental and Biological Samples by Cation Exchange Resin Filters for X-ray Spectrometry, Anal. Chem. 1981, 53 (pgs. 223-227)
- *41. Tanzer, D. et al., Determination of Dissolved Selenium Species in Environmental Water Samples Using Isotope Dilution Mass Spectrometry, Anal. Chem. 1991, 63 (pgs. 1984-1988)
- *42. Heumann, K. G. et al., Elemental Speciation with Liquid Chromatography-Inductively Coupled Plasma Isotope Dilution Mass Spectrometry, J. Anal. At. Spectrom. 1994, 9 (pgs. 1351-1355)
- *43. Nusko, R. et al., Chromium Speciation with Isotope Dilution Mass Spectrometry, Anal. Chim. Acta 1994, 286 (pgs. 283-290)
- *44. Bowers, Jr., George N. et al., Isotope Dilution Mass Spectrometry and the National Reference System, Analytical Chemistry, Vol. 65. No. 12, June 15, 1993 (pgs. 475R-479R)
- *45. Heumann, K. G., Determination of Dissolved Selenium Species in Environmental Water Samples Using Isotope Dilution Mass Spectrometry Anal. Chem. 1991, 63 (pgs. 1984-1989)
- *46. Wiederin, D. et al., Chromium Speciation Using CETAC, Column ANX4605-CR, CETAC Corporation: Omaha, NE, 1994 (pgs. 1-25, Dialog pgs. 4-10 and 16)
- *47. Welch, Michael J., Determination of Serum Creatinine by Isotope Dilution Mass Spectrometry as a Candidate Definitive Method, Analytical Chemistry, 58, 1986 (pgs. 1681-1685)

- *48. Ellerbe, Polly et al., Determination of Serum Uric Acid by Isotope Dilution Mass Spectrometry as a New Candidate Definitive Method, Analytical Chemistry, 62, 1990, (pgs. 2173-2177)
- *49. Ellerbe, Polly et al., Determination of Serum Cholesterol by a Modification of the Isotope Dilution Mass Spectrometric Definitive Method, Analytical Chemistry, 61, 1989 (pgs. 1718-1723)
- *50. Begley, I. S. et al., Occurrence and Reduction of Noise in Inductively Coupled Plasma Mass Spectrometry for Enhanced Precision in Isotope Ratio Measurement, J. Anal. Atom. Spectrom. 1994, 9 (pgs. 171-176)
- *51. Russ, G.P., III et al., Isotopic Ratio Measurements With an Inductively Coupled Plasma Source Mass Spectrometer, Spectrochima Acta, Part B 1987, 42b (pgs. 49-62)
- *52. Russ, III, G.P., Isotope Measurements Using ICP-MS, Applications of Inductively Coupled Plasma Mass Spectrometry, Date, A.R., Gray, A.L., Eds., Chapman and Hall: New York, 1989 (pgs. 90-114)
- *53. Jarvis, K.E. et al., Isotope Ratio Measurement, Handbook of Inductively Coupled Plasma Mass Spectrometry, Blakie Academic & Professional: London, 1992 (Chap. 11, pgs. 310-337)
- *54 Kingston, H. M. et al., Microwave-Enhanced Chemistry: Fundamentals, Sample Preparations and Applications, American Chemical Society: Washington, DC, 1997 (pgs. 55-127, 257-281)
- *55. Dionex, Determination of Cr(VI) in Water, Wastewater, and Solid Waste Extracts, Ion Chromatography Recipe Book, Dionex Corporation: Sunnyvale, CA, 1990, Vol. Technical Note 26 (pgs. 1-7)
- *56. Lu, Y. et al., Determination of Analytical Biases and Chemical Mechanisms in the Analysis of Cr(VI) Using EPA Protocols, Environ. Sci. & Tech., 1997 (pgs. 1-33)